

Name: _____

at1118paper: Complete the Square (v420)

Example

By completing the square, find both solutions to the given equation:

$$x^2 - 60x = -576$$

Add $\left(\frac{-60}{2}\right)^2$, which equals 900, to both sides of the equation.

$$x^2 - 60x + 900 = 324$$

Factor the left side.

$$(x - 30)^2 = 324$$

Undo the squaring. We need to consider both $\pm\sqrt{324}$.

$$x - 30 = -18$$

or

$$x - 30 = 18$$

$$x = -48$$

or

$$x = -12$$

Question 1

By completing the square, find both solutions to the given equation:

$$x^2 - 32x = -240$$

Question 2

By completing the square, find both solutions to the given equation:

$$x^2 + 46x = -273$$

Question 3

By completing the square, find both solutions to the given equation:

$$x^2 - 46x = 627$$

Question 4

By completing the square, find both solutions to the given equation:

$$x^2 - 18x = 88$$

Question 5

By completing the square, find both solutions to the given equation:

$$x^2 + 18x = 1008$$

Question 6

By completing the square, find both solutions to the given equation:

$$x^2 + 30x = -104$$